

Indianapolis Means Opportunity

Indianapolis, the 12th largest city in the U.S., has gained nationwide recognition as one of the most attractive and affordable places



to live in the United States. Indianapolis combines the advantages of a large city, including varied cultural activities, vibrant entertainment and night life, with a sense of community and ease of movement not usually found in a city of this size. It is home to many major pharmaceutical and biotechnical companies that have partnered with Government and the Indiana University School of Medicine to create BioCrossroads, a broad initiative to develop life sciences research in the Central Indiana region.

Predoctoral Training and Support

The Stark Neurosciences Research Institute (SNRI) is home of the Medical Neuroscience graduate program which offers the Ph.D. and M.D./Ph.D. degrees in Medical Neuroscience. The accomplished faculty of this multidisciplinary, interdepartmental program holds primary appointments in the medical basic science and clinical departments of the Indiana University School of Medicine, as well as Psychology, BME, and Biomathematics on the IUPUI Arts & Sciences campus.

Training consists of rigorous structured coursework in neuroscience, laboratory rotations which allow for exposure to a wide range of scientific problems and approaches, focused dissertation research, and oral and written presentations of research findings to peer and mentor groups at both the University and national levels.

Applicants to the Medical Neuroscience program are expected to have highly competitive credentials, typically a G.P.A. of -- 3.2 or above, GRE scores (verbal + quantitative) of 1200 or above, excellent letters of reference (3 required), and previous research experience.

Individuals admitted to the program will receive financial support in the form of stipends at a nationally competitive level from both University and federal sources.

Program details and access to electronic applications via a new common graduate application gateway (IBMG program) are available through the "Training" link of the SNRI website...

snri.iusm.iu.edu

For more information contact...

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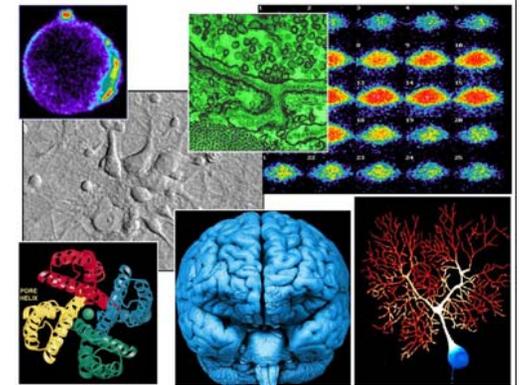
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We hope you'll consider joining us!!

The Paul & Carole Stark Neurosciences Research Institute

Graduate Studies



in
**Medical
Neuroscience**



INDIANA UNIVERSITY

SCHOOL OF MEDICINE

Indianapolis, Indiana

snri.iusm.iu.edu

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Neuroscience: A Field of Excitement, Progress, and Promise

Neuroscience is the fastest growing and most exciting of the new biomedical disciplines. The application of a broad array of approaches from traditional fields such as biochemistry, genetics, molecular biology, physiology and pharmacology has advanced our understanding of the brain and behavior and opened new avenues for discovery. Rapidly emerging discoveries are being translated into advances in the treatment of disorders of the nervous system for which hope can now become reality.

Areas of Research Focus at the SNRI

Investigators at the Stark Neurosciences Research Institute are organized into Research Focus Groups which address specific areas of common interest with a broad range of complementary state-of-the-art approaches. Those approaches range from manipulation of neuronal specific genes in cells and animals to functional neuroimaging, computer modeling to behavioral phenotyping, and proteomics of signaling molecules to gene linkage in human disorders. Research Focus Group areas of concentration include:

- pain and neurosensory systems
- development and repair of the brain and spinal cord
- molecular and behavioral correlates of addiction
- neurobiology of affective and movement disorders
- molecular genetics of neurodegenerative disorders
- neurobiology of metabolic and regulatory systems

The multidisciplinary approach among the investigators at SNRI typically involved in more than one of these research areas, results in a rich interaction among faculty and provides a broader range of research opportunities for our trainees.

Faculty and Their Research

Nick Brustovetsky, PhD, Assistant Professor, Pharmacology & Toxicol. *Molecular mechanisms of excitotoxicity and neuronal apoptosis*

R. Andrew Chambers, MD, Assistant Professor, Psychiatry *Neural basis for substance abuse disorder comorbidity of mental illness*

Ellen A. G. Chernoff, PhD, Associate Professor, Biology *Stem cells in spinal cord and limb regeneration*

Theodore R. Cummins, PhD, Assistant Professor, Pharmacology & Toxicology *Voltage-gated sodium channel subtypes expressed in nociceptors*

Christine Czachowski, PhD, Assistant Professor, Psychiatry *Mechanisms of alcohol craving, dependence and relapse*

Joseph A. Di Micco, PhD, Professor, Pharmacology & Toxicology *Hypothalamic mechanisms involved in emotional stress and infection*

Martin R. Farlow, MD, Professor, Vice Chairman of Neurology *Molecular markers and animal models of Alzheimer's disease.*

Tatiana Foroud, PhD, Professor, Medical & Molecular Genetics *Mapping of genes in complex disorders of the nervous system*

Charles R. Goodlett, PhD, Professor of Psychology *Biopsychology of addiction; alcohol and cerebellar development*

Nicholas J. Grahame, PhD, Associate Professor, Psychology *Genetics of mouse alcohol preference and behavior*

Eri Hashino, PhD, Associate Professor, Otolaryngology *Neuronal-lineage specification; neural stem cell differentiation*

Cynthia Hingtgen, MD, PhD, Assistant Professor, Neurology *Molecular mechanisms of pain sensation in neurofibromatosis*

Andy Hudmon, PhD, Assistant Professor, Biochemistry *Ca²⁺ signaling in neurons: kinases, molecular machines & modules*

Joyce Hurley, PhD, Assistant Professor, Biochemistry *Role of calcium channels and serotonin receptors in migraine*

David A. Kareken, PhD, Associate Professor, Neurology *Functional neuroimaging of human olfaction, substance abuse*

Rajesh Khanna, PhD, Assistant Professor, Pharmacology & Toxicology *Regulation of trafficking of ion channels in neurodegenerative disorders.*

Debomoy K. Lahiri, PhD, Professor, Psychiatry *Biogenesis and genetic regulation of the Alzheimer's amyloid plaque*

Wei-Hua Lee, MD, PhD, Associate Professor, Pediatrics *Neurotrophic factors in brain development, injury and neurodegeneration*

William J. Mc Bride Jr, PhD, Professor, Psychiatry *Brain mechanisms involved in alcohol addiction*

Evan D. Morris, PhD, Assistant Professor, Radiology & BME *Functional imaging and modeling of neurochemistry in drug abuse*

James M. Murphy, PhD, Professor, Psychology and Psychiatry *Neurobiology and genetics of alcohol seeking behavior*

Richard Nass, PhD, Associate Professor, Pharmacology & Toxicology *Genetic and environmental regulation of neuron loss in Parkinson's*

Grant D. Nicol, PhD, Professor, Pharmacology & Toxicology *Sensitization of ion channels in sensory neurons during inflammation*

Alexander B. Niculescu III, MD, PhD, Assistant Professor, Psychiatry *Convergent functional genomics and phenomics of mood disorders*

John I. Nurnberger Jr, MD, PhD, Professor, Psychiatry *Genetics and psychopharmacology of mood disorders*

Gerry S. Oxford, PhD, Executive Director, SNRI and Professor, Pharmacology & Toxicology *Molecular regulation of anxiety and pain sensation by ion channels*

Michael B. Pritz, M.D, PhD, Professor, Neurological Surgery *Developmental evolutionary biology*

Xiaoxi Qiao, MD, PhD, Assistant Professor, Ophthalmology *Neurotrophic regulation of retinal and cerebellar function*

Simon J. Rhodes, PhD, Professor, Cellular and Integrative Physiology, and Associate Dean for Graduate Studies *Developmental genetics of vertebrate neuroendocrine organs*

Leonid L. Rubchinsky, PhD, Assistant Professor, Biomathematics *Neuronal networks and modeling of basal ganglia function and disorders*

Andrew Saykin, PhD, Professor, Radiology *Functional MRI studies of neurodegenerative disorders*

John H. Schild, PhD, Associate Professor, Biomedical Engineering *Neural control of cardiovascular function; computational neuroscience*

Anantha Shekhar, MD, Professor, Psychiatry *Neurobiology of anxiety behaviors, peptide receptors in anxiety*

Jay R. Simon, PhD, Professor, Psychiatry *Neurobiology of monoamine transporters*

Debbie Thurmond, PhD, Assistant Professor, Biochemistry *Vesicular trafficking of receptors related to glucose homeostasis*

Michael R. Vasko, PhD, Professor and Chair, Pharmacology & Toxicology *Signal transduction regulating sensitization of sensory neurons*

Ruben Vidal, PhD, Assistant Professor, Pathology & Laboratory Medicine. *Neurodegenerative diseases caused by abnormal protein deposition in the brain*

Xiao-Ming Xu, MD, PhD, Professor & Mari Hulman George Chair of Neurological Surgery *Neuroprotection and Functional Regeneration following Spinal Cord Injury*

Zao C. Xu, MD, PhD, Associate Professor, Anatomy & Cell Biology *Neuronal cell death in ischemia; CNS plasticity after amputation*

Karmen Yoder, PhD, Assistant Professor, Radiology *PET analysis of dopaminergic function in animal models of addiction*

Xin Zhang, PhD, Assistant Professor, Medical & Molecular Genetics *Genetic mechanisms of eye development*

Feng C. Zhou, PhD, Professor, Anatomy & Cell Biology *Injury and plasticity in the central nervous system*